AMENDMENTS TO THE DRAWINGS

The attached drawing sheet includes changes to FIG. 1. The changes are summarized as follows: amended FIG. 1 now illustrates the means for attachment as described in the specification, namely a suction cup (indicated by reference number 3a) and static cling plastic (indicated by reference number 3b). Support for the amended FIG. 1 can be found in the specification as originally filed on page 4, lines 14-19 and elsewhere in the specification.

Attachments:
Replacement Sheet (1 page)
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REMARKS

Applicants have amended claims 1 and 7. Support for this amendment can be found on lines 14-19 of page 4, lines 13-15 of page 5, Examples 1-5 found on line 5, page 11 to line 19 on page 14 of the specification and amended FIG. 1 (as supported by lines 14-19 of page 4). No new mater is introduced as a result of the claim amendments. No claims have been cancelled and no claims have been added.

Claim Rejections

Rejections under 35 USC 103(a)

The Examiner finally rejected all pending claims (1-28) under 35 USC 103(a) as unpatentable over US Patent No. 4,274,204 to Self (hereinafter the '204 patent) in view of US Patent No. 5,214,855 to Gibbs (hereinafter the '855 patent) and US Patent No. 2,588,433 to Twamley (hereinafter the '433 patent).

The Examiner characterized the '204 patent as disclosing a plurality of entry determining elements being movably secured together by a means for securing, when the plurality of entry determining elements are the standard and nonstandard holding patterns on one side of a card (42) and the landing pattern on the opposite side of card (42), the elements on the card (42) being movably secured together with respect to a slotted frame and its two parts, (12) and (14). The operation of the device is described in column 4, lines 11-40 of the '204 patent. As discussed therein, the user is required to undertake several manipulations of the device to determine the correct maneuvers for entry into a landing pattern or a holding pattern. For example, the user must determine what maneuver is required to be performed and select the proper side of the placard for reference. Next the user must determine which of the means representing an aircraft movement about a reference point to use. The user must determine the proper heading of the aircraft and once determined align a reference line on the device with the appropriate heading on the compass rose. Finally, the user must visually extract the required compass headings from the compass rose for use in the maneuver and mentally picture the aircraft and the maneuver in his/her head. Such maneuvers require considerable attention of the pilot.

The Examiner stated that the '204 patent did not disclose the that each entry determining sector of the entry determining element be labeled in order to provide the

user with the advised entry procedure; 2) that each entry plan designator comprise a visually distinguishable feature; 3) the entry determining elements being of different shapes; 4) the entry determining elements being of the same shape or different shapes; 5) the entry determining elements having a surface texture; 6) the system being associated with an appropriate navigational instrument of the aircraft; and 7) the plurality of entry determining elements being rotatably moveably secured together by a means for securing, the proper entry determining label being displayed at the bottom of the element based on the initial orientation information.

Therefore, the Examiner determined that the device of the '204 patent lacked specific structures taught by the device of the current disclosure, and the advantages associated therewith.

The Examiner uses the '855 patent and the '433 patent to provide teachings relating to points 1-7 above.

The Examiner characterizes the '855 patent a system being associated with an appropriate navigational instrument forming a part of the aircraft, a plurality of entry determining elements (12 and 14) being rotatably secured together by a means for securing, each of the entry determining elements being divided into a plurality of entry determining sectors, with each sector being associated with an entry determining label, that the different elements can be coded to distinguish them from one another. The Examiner also stated the overlaid displays could be displayed by computer on a video display, although the '855 patent give no information on this potential.

As described by the specification, the '855 patent discloses a flight navigation apparatus that can be used to give information to the pilot regarding the aircraft's position. The operation of the device in determining a correct holding pattern entry is given in column 10, lines 31-66. As can be seen, the use of the device of the '855 patent requires the pilot to repeatedly loosen, adjust and retighten various parts of the device in order to provide the correct information to the pilot. In contrast, the device of the present application simply requires the pilot to select the appropriate entry determining element and make on adjustment in order to receive the desired information. Furthermore, this description does not include removably securing the device to a navigational instrument of the aircraft and the description of the device itself does not include a means for

attachment to removably secure the device to the faceplate of a distinct and separate navigational instrument of the aircraft as do revised claims 1 and 7 of the current applciaiton. Rather the '885 patent describes a lanyard 54 for hanging the device somewhere in the cockpit (column 8 lines 43-46). Therefore, the device of the '855 patent does not disclose a device that can be removably secured to the face of a distinct and separate navigational instrument or a device that comprises a means for attachment to accomplish this purpose.

The applicants respectfully point out that the elements 12 and 14 of the device of the '855 patent also fail to meet the limitations of the entry determining elements as described in claims 1 and 7. Each entry determining element is required to be divided into a plurality of entry determining sectors, with each sector being associated with an entry determining label informing the user of an advised entry procedure based on the initial orientation of the aircraft with respect to the entry environment. However, element 14 clearly lacks a plurality of entry determining sectors associated with an entry determining label; element 14 simply illustrates a landing traffic pattern.

The Examiner also states that the device of the '855 patent can be implemented on a computer. Even if this implementation is used, the resulting device would still not have the features described and claimed in claims 1 and 7 as amended. Specifically, the device would still not be removably associated with the face of a distinct and separate navigational instrument of the aircraft and would not have a plurality of entry determining elements rotatably secured to one another to provide the information as set forth in claims 1 and 7 as amended. Furthermore, the vast majority of aircraft in use do not have instruments involving a computer display.

With regard to the '433 patent, the patent relates to a device which allows the orientation of an aircraft to be determined with reference to any radio station or radio range station by providing a visual representation of the aircraft position with respect to the stations to the pilot (column 1, lines 1-6). The device of the '433 patent does not provide information to the pilot regarding an advised entry procedure into an entry environment as required by claims 1 and 7 as amended. The Examiner cited column 1, lines 46-51 for the proposition that the '433 patent disclosed a rotatable overlay 20 (the chart disc) that can be applied to a navigation instrument display in order to help the pilot

remain on course.

The chart disc (20) and direction disc (14) of the '433 patent do not provide the pilot with an advised entry procedure into an entry environment as required by claims 1 and 7 of the present application. The chart disc (20) and the navigation disc (14) simply provide the pilot with the location of the aircraft with respect to his surroundings and do not provide any information regarding a proper entry procedure into an entry environment. The device of the '433 patent receives input from a direction finder of the aircraft via autosyn receiver 12 and from the compass of the aircraft via autosyn receiver 16. Through a series of gears, the navigation disc (14) and the chart disc (20) are manipulated so that the aircraft position indicator (45) is displayed on the chart disc (20). Each map piece must be precisely designed for the location of the aircraft in order to display the proper information and only 1 map piece may be used at a time, requiring the pilot to switch map pieces during flight, which is a distraction to the pilot. The specification does not describe a means for attachment for the device of the '433 patent so that is can be removable secured to the face of a separate and distinct navigational instrument of the aircraft or a means for securing one or more discs movably together. The device of the '433 patent is itself a navigational instrument that is required to be mounted somewhere within the aircraft and is not removably secured to a separate and distinct navigational instrument of the aircraft. Therefore, this device fails to meet the structure of the device as described in claims 1 and 7 as amended.

The '433 patent does describe an embodiment of the device that is not automatically controlled by the aircraft instruments (column 4, line 60 to column 5, line 4). In this embodiment, the disc is mounted to a base (60) but the specification does not disclose a device that can be removably secured to the face of a distinct and separate navigational instrument or a device that comprises a means for attachment to accomplish this purpose.

Although not cited in the 103(a) rejection, the Examiner also referenced the 3,190,950 patent to Ariessohn (hereinafter the '950 patent). The '950 patent discloses a pictorial position display that is in fact a separate instrument in and of itself that can be positioned in the aircraft similar to that described in the '433 patent. The instrument receives electrical inputs from a navigational device of the aircraft but is not attached to

the face of the navigational device in any way. Furthermore, the instrument of the '950 patent does not have a plurality of entry determining elements, but requires the use of only 1 map piece at a time. Each map piece must be precisely designed for the location of the aircraft in order to display the proper information.

The present disclosure describes a navigational assist system that is mush simpler to use than those described in the art. The system of the present disclosure is designed to be removably secured to the face of a distinct and separate navigational instrument of the aircraft (see amended claims 1 and 7) using the means for attachment secured to one of the entry determining elements. The pilot removably secures the system on the face of the navigational instrument and aligns the reference element on a given entry determining element with a directional heading associated with an entry environment (such as a holding pattern or a runway traffic pattern). Through such an alignment, an initial position of the aircraft is established with respect to the entry environment and the advised course of action is displayed at the bottom of the entry determining element. Since the system of the present disclosure is removably secured to a navigational instrument on the aircraft (which the pilot will be regularly consulting during aircraft operation) the attention of the pilot is not diverted away from the aircraft and other hazards (such as other aircraft) in the vicinity while using the system of the present disclosure. Once again, this feature is not described in the devices described in the '204, '855 and '433 patents.

The device of the '204, '433 and '855 patents are not designed to or capable of being removably secured to the face of a separate and distinct navigational instrument on the aircraft. Each of these devices requires that the pilot perform complex manipulations of the device (without removably securing the device to a navigation instrument) in order to determine the correct entry procedure into an entry environment as discussed above. Therefore, there is no reference cited of record that describes or suggests a navigational assist system capable of being removably secured to the face of a navigational device to obtain the benefits described herein.

Furthermore, the system comprises at least two entry determining elements that are moveably secured to one another so that the entry determining elements are rotatable with respect to one another and that can be removably secured to the face of a

navigational instrument of the aircraft (see amended claims 1 and 7). The structure is important as it allows the pilot to view information relating to both holding patterns and runway traffic patterns without manipulating (such as flipping the device over) the system as required in the '204, or exchanging map pieces as required by the '433 patent (and the '950 patent). The system of the present disclosure provides a separate entry determining element for standard (right hand turns) and non-standard (left hand turns) entry into holding patterns and a single entry determining element for entry into both right and left runaway traffic patterns. In this regard, the system of the present disclosure allows the pilot to see all of the entry determining elements at one time. The mounting of the entry determining elements so that they are rotatable to one another and removably secured to the face of a separate and distinct navigational instrument of the aircraft provides an advantage to the device of the present disclosure over that of the devices described in the '204, '855 and '433 patents.

Conclusion

Therefore, the Applicants respectfully suggest that the cited references do not render any of claims 1-28 obvious. Applicants respectfully request that the requested amendments be entered and that a timely Notice of Allowance be issued in this case.

Respectfully Submitted,

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APPENDIX

Replacement Sheet (1 page)

Annotated Sheets Showing Changes (1 page)

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FIG. 1